

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number
WO 2004/053072 A2

- (51) International Patent Classification⁷: **C12N**
- (21) International Application Number:
PCT/US2003/038672
- (22) International Filing Date: 5 December 2003 (05.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/431,267 6 December 2002 (06.12.2002) US
- (71) Applicant (*for all designated States except US*):
NORTHWEST BIOTHERAPEUTICS, INC. [US/US];
22322-20th Avenue SE, Suite 150, Bothell, WA 98021
(US).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **BOSCH, Marnix, L.**
[US/US]; 7814 N.E. 14th Street, Medina, WA 98039 (US).
- (74) Agents: **POOR, Brian, W.** et al.; Townsend and Townsend
and Crew LLP, Two Embarcadero Center, 8th Floor, San
Francisco, CA 94111 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:**
— *of inventorship (Rule 4.17(iv)) for US only*
- Published:**
— *without international search report and to be republished
upon receipt of that report*
- For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: ADMINISTRATION OF DENDRITIC CELLS PARTIALLY MATURED *IN VITRO* FOR THE TREATMENT OF TUMORS

(57) **Abstract:** The present invention provides populations of cells comprising partially matured dendritic cells that can be used for administration individuals having a tumor. Partially matured dendritic cells, those contacted with a dendritic cell maturation agent for about 1 to about 10 hours, or more, efficiently take up and process tumor antigens in the area of the tumor site, complete maturation, and can subsequently migrate to the lymph nodes of a treated individual. Once in the lymph node the now fully mature antigen presenting dendritic cells secrete the appropriate cytokines (e.g., TNF α and IL-12) and contact T cells inducing a substantial anti-tumor immune response.